

SUMMER BIOLOGY OF TRAILL'S FLYCATCHER

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THE Traill's or Alder Flycatcher (*Empidonax traillii*) is found over the entire state of Michigan. Aldrich (1951, 1953) has described the subspecies occurring there as *E. t. campestris*, but this race was not recognized by the 1957 A.O.U. Checklist which considers the Michigan birds as belonging to the widespread race, *traillii*. Stein (1958) differentiated the New York and Michigan populations by voice, behavior, and ecology, into two groups. The northern Michigan birds, at least south to Charlevoix (probably farther south) were of the *fee-bee-o* song type while those in the southern part of the state were of the *fitz-bew* song type.

MIGRATION

Arrival.—In southern Michigan all of the Traill's Flycatchers that remain to breed are of the *fitz-bew* song type. At Battle Creek, Calhoun County, for 35 seasons between 1919 and 1964, the average spring arrival date for first-observed males was 17 (10–27) May. All males do not arrive at once, but over about a 10-day or 2-week period most males, and also females, have returned from the south. After arrival, both males and females remain usually on their territories for the duration of the breeding season.

Departure.—Traill's Flycatcher usually departs from southern Michigan in early August, though a nesting pair with young still in the nest stays later. I find few birds after 10 August. My latest Calhoun County records have been: 22 August 1934, 22 August 1937, 4 September 1938, 1 September 1939, 17 August 1941, 16 August 1951, 1 August 1952, 11 August 1953, 7 August 1954, 10 August 1956, 10 August 1958, 13 September 1959 (1 caught), 5 August 1960, 2 August 1961, 9 August 1962, 20 August 1963, and 4 August 1964.

Each summer at Ackley Lake, Convis Township, Calhoun County, I have caught these birds in mist nets, but only one has been caught after 10 August.

Near the shores of Lake Michigan, in Muskegon County, there are no summer resident Traill's Flycatchers on the unplowed, brushy, grass-grown fields. Yet I have caught them there in May and August: 15 May 1960, 5 August 1960 (2), 8 August, 9 August, 11 August, 13 August (2), 20 August, and 24 August 1961.

TERRITORY

On a dry marsh adjacent to the building at the Baker Sanctuary, Calhoun County, the size of 27 *fitz-bew* territories averaged 2.06 (1.3–2.9) acres (83.3 ares). A similar habitat farther out in the Baker Sanctuary was flooded

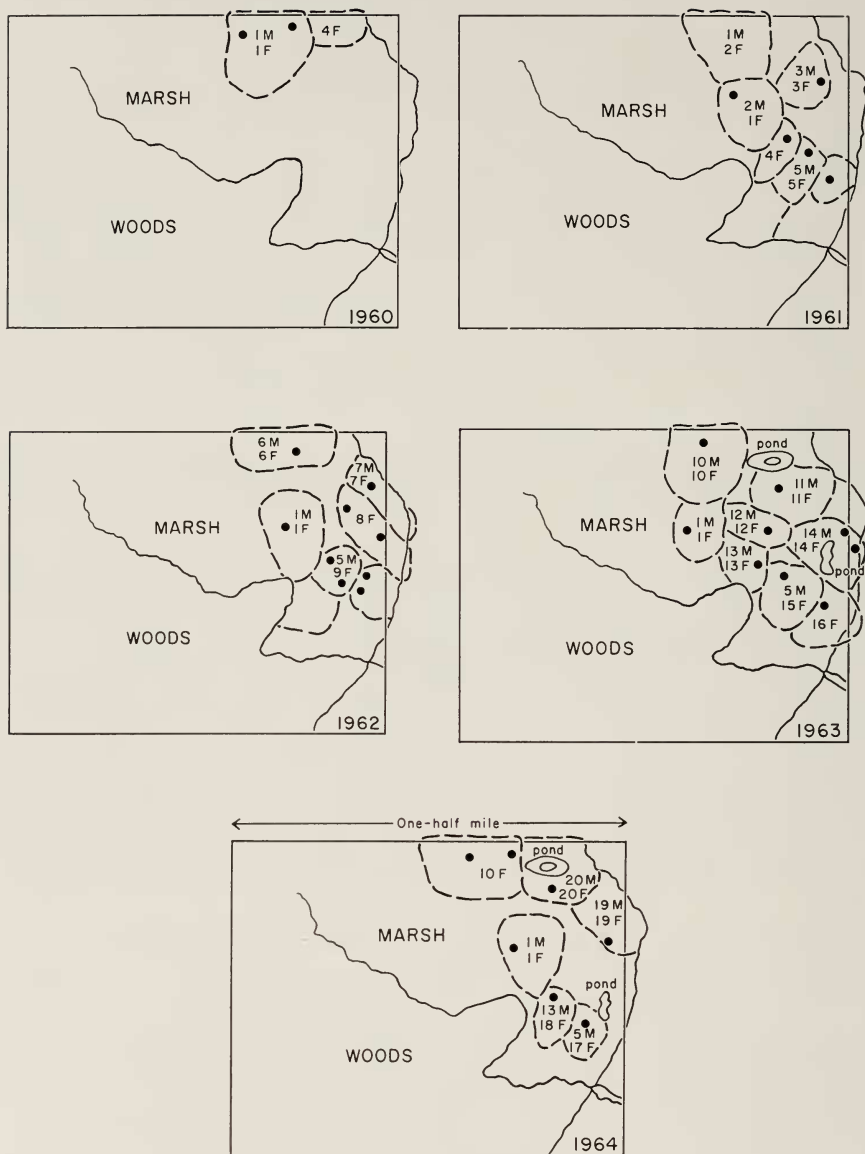


FIG. 1. Territories of Traill's Flycatcher at Baker Sanctuary, Convis Township, Calhoun County, Michigan, 1960-64. Black circles are nest sites. F—refers to a banded female bird. M—refers to a banded male bird.

in the fall of 1961, after the nesting season. This area, now under up to 10 feet of water, was still used by Traill's Flycatchers in 1962, and some were still there in the summer of 1964. Territories (15) averaged 1.86 acres (75.3 ares), slightly smaller than those near the building. At Ackley Lake, 15 territories averaged 1.52 acres (61.5 ares). At Montague, Muskegon County, 16 territories averaged 1.3 acres and some were as small as 0.8 acre (32.4 ares). Thus 73 territories in southern Michigan, 1957-64, averaged 1.74 (0.8-2.9) acres (70.4 ares). Figure 1 shows the territories at the Baker Sanctuary for the years 1960-64.

The limiting factors to territorial boundaries near the building at Baker Sanctuary were dry land, woodland, other Traill's Flycatcher territories, and probably necessary foods. At Ackley Lake territories were compressed between the lake and dry land, along a narrow brushy border. At the Big Marsh Lake, Baker Sanctuary, the birds maintained their territories where bush concentrations occurred. At Montague, the territories were long and narrow, compressed into two brushy ditch banks between cultivated celery fields.

All territories required shrubs and small trees, and some clearings. If water, whether lake, stream, or ditch, was not present it was essential very close to the territory. The foods utilized probably had much to do with the habitats used.

HABITAT

The Baker Sanctuary building habitat consisted of an open marsh, usually dry in summer, covered with rank sedges and rushes (*Carex* and *Scirpus*) and grasses through which grew *Lilium superbum*, *Cypripedium candidum*, *Salix* (at least three species including *S. discolor*), *Corylus americana*, *Betula pumila*, a few small *Quercus macrocarpa* on drier portions, some *Ulmus americana*, *Spiraea salicifolia*, and *S. tomentosa*, *Crataegus* sp., *Rosa carolina*, one or two patches of *Zanthoxylum americanum*, *Rhus vernix*, *Asclepias incarnata*, *Sambucus canadensis*, *Eupatorium purpureum*, and *E. perfoliatum*, and species of *Solidago*.

The shrubs were in clumps or scattered, sometimes parklike, among the tall sedges and grasses. A few lower spots contained some water during the spring and in wet years. Most of the study here was made during a dry-weather period.

The study area at the Big Marsh Lake was originally similar; but, with the increase in water depth, it consisted only of shrubs and small trees protruding above the water. The area at Ackley Lake was also similar, but the immediate lake-border was much more grown in shrubs. Here many taller trees, *Ulmus americana*, *Populus tremuloides*, and one large hickory (*Carya ovata*) bordered the flycatcher habitat. The Branch County habitat was also similar,

TABLE 1A

FREQUENCY OF OCCURRENCE OF SHRUBS IN 5-METER QUADRATS AROUND 35 NEST SITES.
BAKER SANCTUARY, SECTION 14, CONVIS TOWNSHIP, CALHOUN COUNTY, MICHIGAN

Shrubs in quadrat	Number of times used as nest site	Number of quadrats in which found	Percentage of times found as nest site	Approximate number of stalks in quadrats (all)
<i>Betula pumila</i>	1	5	2.8	127
<i>Cephalanthus occidentalis</i>	0	1	0	15
<i>Cornus amomum</i>	17	19	48.5	1,785
<i>Cornus stolonifera</i>	2	2	5.6	136
<i>Corylus americana</i>	2	2	5.6	500
<i>Crataegus</i> sp.	5	6	14.3	77
<i>Populus tremuloides</i>	0	1	0	21
<i>Prunus serotina</i>	0	1	0	1
<i>Rosa carolina</i>	1	1	2.8	25
<i>Salix</i> all sp.	3	15	8.4	581
<i>Sambucus canadensis</i>	2	2	5.6	15
<i>Ulmus americana</i>	1	6	2.8	19
<i>Zanthoxylum americanum</i>	1	1	2.8	67
Totals	35		100	3,369

TABLE 1B

FREQUENCY OF OCCURRENCE OF SHRUBS IN 5-METER QUADRATS AROUND 14 NEST SITES.
ACKLEY LAKE, SECTION 3, CONVIS TOWNSHIP, CALHOUN COUNTY, MICHIGAN

Shrubs in quadrat	Number of times used as nest site	Number of quadrats in which found	Percentage of times found as nest site	Approximate number of plants in quadrats (all)
<i>Cornus amomum</i>	3	3	21.4	225
<i>Cornus stolonifera</i>	1	7	7.1	176
<i>Crataegus</i> sp.	0	2	0	2
<i>Rosa carolina</i>	2	6	14.2	80
<i>Salix</i> all sp.	5	13	35.7	859
<i>Spiraea tomentosa</i>	2	3	14.2	48
<i>Ulmus americana</i>	1	3	7.1	5
Totals	14		100	1,395

but the birds extended their ranges somewhat onto the dry neighboring land covered with *Crataegus*. The original Muskegon County study area, prior to drainage, was very similar to that at the Baker Sanctuary.

Campbell (1936) and Berger and Parmelee (1952) found two types of habitat used by the species, and while most of the nests I have observed have been in marshy habitats, a few have been in *Crataegus* trees growing parklike on dry fields near the border of a marsh.



FIG. 2. Typical nest of Traill's Flycatcher, 18 June 1954, Baker Sanctuary, Calhoun County, Michigan.

Table 1 lists the relative abundance of the shrub species found in quadrats, five meters square, centered on the nest site, and also gives the relative frequency with which each was selected as a nest site.

NEST SITES

Ninety-four of the Traill's Flycatcher (*fitz-bew type*) nests that I have found were in upright crotches in small trees or bushes and 14 were on horizontal branches of similar trees (Fig. 2). If placed on a horizontal branch they were fastened to another branch extending upright from it.

Sometimes the nest bush was a lone one separated from others of its kind in the marsh, but again it was in a large clump. At the Baker Sanctuary these clumps were often pure stands of one species. Of 35 nests found on the drier habitat there, 14 were in pure stands (nine in *Cornus amomum*, three in *Crataegus* sp., one each in *Salix* sp. and *Sambucus canadensis*); four others were in almost pure stands (one each in *Cornus amomum*, *Corylus americana*, *Rosa carolina*, and *Zanthoxylum americanum*). Five were located in a lone bush: three in *Crataegus* sp., one in *Sambucus canadensis*, and one in *Salix* sp.

A summary of 93 Traill's Flycatcher nests is given in Table 2. Of the 93, 33 (35.5 per cent) were in *Cornus amomum*, 12 (12.9 per cent) in *Cornus stolonifera*, 14 (15 per cent) in *Salix* sp., 8 (8.6 per cent) in *Crataegus* sp., and 11 (11.8 per cent) in *Sambucus canadensis*. In lesser numbers, four were found in *Rosa carolina*, three in *Ulmus americana*, two each in *Corylus americana*, *Spiraea tomentosa*, and *Zanthoxylum americanum*, and one each in *Betula pumila* and *Cephalanthus occidentalis*.

A single *fee-bee-o* type nest in Schoolcraft County, northern Michigan, was built in *Viburnum cassinoides*.

Table 2 shows average heights of 93 nests on the different southern Michigan study areas in Calhoun, Muskegon, and Branch counties. These were measured from the ground to the rim of the nest. The average height of these 93 *fitz-bew* nests was 133.2 (61.2–281.6) cm. The nests at the Baker Sanctuary lake were measured over the water; the remaining 85 nests over land averaged 145.9 cm above the ground. Berger and Hofslund (1950) found the average height of 17 nests at Ann Arbor, Washtenaw County, Michigan was 125.7 (104.5–160) cm. The single *fee-bee-o* nest in Schoolcraft County was only 63.6 cm above the ground. Stein (1958) found *fee-bee-o* nests were much lower than *fitz-bew* nests in New York.

Most nests were well concealed by the leaves of the shrub, but at the new Baker Sanctuary lake one was built in an almost dead bush. During 1960, several nests were built and ready for eggs when a severe hailstorm crossed the Baker Sanctuary area and stripped most of the leaves from the bushes. These nests were deserted and new ones begun.

THE NEST

Fitz-bew nests are well constructed of cottony materials (Fig. 3) from old thistles (*Cirsium*) and the stems of swamp milkweed (*Asclepias incarnata*), fur, feathers, and deer hair, lined with similar materials and fine grasses. The average inside measurements of 24 nests were: diameter, 52.3 (46.5–57) mm; depth, 38.5 (31–46) mm. Outside measurements were: diameter, 82.2 (71–99) mm; depth, 67.3 (54–105) mm. The average weight of 18 nests after use was 6.94 (3.3–12.1) grams.

The Yellow Warbler (*Dendroica petechia*) builds similar nests in the same areas used by Traill's Flycatchers, but they are usually closer to the ground and smaller. The eggs of the Yellow Warbler are smaller and more heavily spotted. Later, during late July, August, and early September, the Goldfinch (*Spinus tristis*) also builds similar nests in the same area. Goldfinches often used the materials from unused Traill's Flycatcher and Yellow Warbler nests. On two occasions I have watched a Traill's Flycatcher female use material from a previously destroyed nest when building her new nest.



FIG. 3. Traill's Flycatcher at the nest, 15 July 1961, Montague, Muskegon County, Michigan.

NESTING DATES

From studies of 23 females, nesting on the two Calhoun County and the Muskegon County areas, the first egg in a nest was laid, on an average, 17 June (6-28) and nests were terminated, on an average, 19 July (9 July-14 August).

Although I found a female building a nest 25 May 1930, usually nests are built in early June and eggs laid during mid-June, in Calhoun County. Early egg dates there were as follows: 20 June 1920 (4 eggs); 17 June 1928 (2nd egg); 15 and 17 June 1930 (2 nests each with 4 eggs); 16 June 1954 (1st egg); 14 June 1958 (1st egg); 20 June 1960 (1st egg in 2 nests); 21 June 1961 (4 eggs); 22 June 1961 (4 eggs); 11 June 1962 (1st egg); 12 June 1962 (4 eggs); 13 June 1962 (1st egg). One early date for Muskegon County for the first egg laid in a nest was 10 June 1962.

Late Calhoun County nesting dates were: 1 August 1920 (3 young left nest); 3 August 1924 (3 eggs); 1 August 1929 (3 young left); 13 August 1936 (2 young left); 1 August 1952 (4 young); 14 August 1955 (1 young left); 3 August 1956 (4 young ready to leave); 9 August 1956 (3 young left); and 8 August 1962 (3 young just out of the nest). In Muskegon County, late dates were 11 August 1956 (3 young left), and 8 August 1959 (1 young still in nest).

THE EGGS AND INCUBATION

Fee-bee-o eggs in northern Michigan were whitish, covered with very fine spots. In Schoolcraft County one complete set had four eggs, laid 26–29 June 1957. Apparently the first, second, and third were laid prior to 8:00 AM, the fourth between 9:00 AM and noon. They measured, respectively: 18.2×13.8 ; 18.2×13.2 ; 18.4×14 ; and 18.3×13.8 mm. On 30 June they averaged 1.7 grams in weight.

Fitz-bew eggs are almost white, with or without a creamy or buffy tinge, with spots of varying size, mostly at the larger end. On some eggs the spots were very fine, blackish or brownish in color. Others resemble Acadian Flycatcher (*Empidonax virescens*) eggs, with large irregular spots in a wreath around the larger portion. On the same egg some spots may be very dark brown and some almost black. The eggs are ovate or elliptical-ovate in shape, with little gloss. In southern Michigan one set was of five, 52 sets were of four, and 26 sets of three, averaging 3.68 eggs per set. The average set in Muskegon County was $3.81 (1 \times 5, 7 \times 4, 3 \times 3)$; in Calhoun County, $3.70 (45 \times 4; 19 \times 3)$; in Branch County, $3.00 (4 \times 3)$.

The average measurements of 155 *fitz-bew* eggs (Muskegon, Calhoun, and Branch Counties) were $17.70 (15.2\text{--}19.3) \times 13.29 (12.5\text{--}14.3)$ mm. The average weight of 83 eggs was 1.67 grams. Three eggs in a Baker Sanctuary nest in 1958 measured, as laid, 17.2×12.5 , 17×12.8 , and 18×13.2 mm. Another set, in 1961, measured, as laid, 18×13.8 , 17.8×13.6 , 17.8×14 , and 17.8×13.9 mm.

Eggs are usually laid during the early morning, the last egg in the late morning or even later. One nest at Baker Sanctuary had one egg on 18 June

1958 at 7:00 AM. The second egg was laid 19 June, the third egg prior to 7:00 AM 20 June. Another nest had no eggs at 7:00 AM 18 June 1958, but two at 7:00 PM 19 June, and still two at 7:00 AM 20 June. At another nest a female was on one egg at 5:40 AM 12 June 1962. At 6:30 AM she had returned and there were two eggs. On 13 June at 7:30 AM there were three and at 7:00 PM 14 June four.

Incubation periods were obtained as follows: (1) Branch County, 15 July 1955, 3rd egg laid; 29–30 July, all hatched: (2) Baker Sanctuary, 23 June 1961, 4th egg laid; 8 July, 4th egg hatched: (3) Baker Sanctuary, 23 June 1961, 4th egg laid; 8 July, all hatched: (4) Muskegon County, 13 June 1962, 4th egg laid; 27 June, all hatched: (5) Baker Sanctuary, 14 June 1962, 4th egg laid; 28 June, 4th egg hatched: (6) Baker Sanctuary, 16 June 1962, 4th egg laid; 30 June, 4th egg hatched: (7) Calhoun County, 13 July 1963, 3rd egg laid; 26 July, 3rd egg hatched. The incubation periods (between the laying and the hatching of the last egg) were thus: 15 days (3), 14 days (3), and 13 days (1).

NESTING SUCCESS

I have previously published (1961:267–268) records of the survival of nests and eggs of the four *Empidonax* flycatchers found in Michigan. Since then four more year's records have been added. For *fitz-bew* Traill's Flycatchers the data on nesting success are given in Table 3. Of 92 nests for which the success or failure was known, young hatched in 64 (69.6 per cent) and young left from 60 (65.2 per cent). Of 302 known eggs, 223 (73.8 per cent) hatched while 198 (65.6 per cent) fledged.

Only two of the 23 females had more than one nest during the summer. The average number of eggs laid by these 23 females during a single summer was 4.0 (2–8). An average of 3.2 (0–5) young was reared. Of the two females which laid more than one set of eggs, one laid seven, the other eight.

One female, during 6 years, had one nest each year. She laid at least 20 eggs, of which 17 (85 per cent) hatched and from which 13 young (65 per cent) fledged. During the 6 years she raised, per year: none, none, four, two, four, and three young.

COWBIRD PARASITISM

The Brown-headed Cowbird (*Molothrus ater*) seldom parasitizes the nests of Traill's Flycatcher. I have previously published (1961) records of four parasitized nests, and I have found one since. Consequently, out of 94 Traill's Flycatcher nests, only 5 (5.3 per cent) have been parasitized. In each of two nests one cowbird was fledged. This was at the expense of seven Traill's Flycatcher eggs which did not hatch. In another nest both cowbird and

TABLE 3
NESTING SUCCESS OF TRAILL'S FLYCATCHER

Year	Nests	Nests in which flycatcher eggs hatched	Nests in which flycatcher eggs fledged	Per cent nest success	Flycatcher eggs laid	Flycatcher eggs hatched	Flycatcher young fledged	Flycatcher per cent success
before 1960	43	23	23	53.5	139	80	76	53.9
1961	10	10	8	80.0	39	37	30	76.9
1962	18	15	14	77.8	58	54	44	75.9
1963	13	10	9	69.2	40	28	24	60.0
1964	8	6	6	75.0	26	24	24	92.2
	92	64	60	65.2	302	223	198	65.6

flycatcher eggs were taken by a predator. In the other two nests, the flycatcher built the cowbird eggs into the nest bottom. Neither of these eggs hatched; the one nest met with failure, but the second may have succeeded.

From the flycatcher's standpoint the success in these nests was possibly two fledged from at least 12 eggs laid. From the cowbird's standpoint, five eggs laid in five nests produced two young (40 per cent success). If a cowbird lays an egg in a Traill's Flycatcher nest the nest is doomed to failure in at least 80 per cent of cases.

THE YOUNG

The young are born naked except for tufts of gray down, 4.5–6 mm long on the crown, and a little shorter on the spinal, alar, humeral, femoral, and crural tracts. Young *E. t. brewsteri* described by King (1955:161–163) were very similar to those of *E. t. traillii*.

The down on newly hatched *E. t. traillii* and *E. flaviventris* is a little darker than that on newly hatched *E. minimus*, which in turn is a little darker than that on *E. virescens*, which is white. The flesh-colored skin is similar in all. Young *traillii* are much less mottled in appearance as they approach fledgling age than are the young of *virescens*.

Day 0: Seven young, weighed in the early morning, averaged 1.28 (1.2–1.4) grams in weight. Day 1: Seven young averaged 2.57 (1.6–3.3) grams. Day 3: Seven young averaged 4.2 (3.0–5.7) grams. Day 7: Six young averaged 8.1 (8.0–8.4) grams. Day 10: One young weighed 11.5 grams. Day 11: Three young averaged 11.7 (10.1–13.4) grams.

One 3-hour-old *E. t. traillii* raised its head, opened its mouth, and called, a low *queep*, when the parents called *whit* at the nest.

Of five family groups which were undisturbed the young left the nest at the following known ages: 16 days; 13, 13, 12 days; 15, 15, 15, 14 days;



FIG. 4. Young Traill's Flycatcher, about 14 days old, 31 July 1955, Montague, Muskegon County, Michigan.

13, 13, 13 days; and 14, 14 days. The average for these 13 young was 13.8 days.

At 12 days of age the young were unable to fly, but at 14 days they could fly as far as 100 feet (Fig. 4). The young remained on the parent's territory

until they departed southward in August. On 1 August 1961 at Ackley Lake two young flycatchers were caught: one less than 100 feet from the nest it had left on 13 July, the other 175 feet from the nest it had left on 17 July. The first bird was 29 days old and weighed 13.3 grams. Its wing measured 65 mm, and its tail, 54 mm. The second bird weighed 12.3 grams. Its wing measured 67 mm and its tail, 54 mm.

After leaving the nest, the young remain for about 3 or 4 days in the bushes near the nest, then follow the parents through the territory begging for food until they are 24 or 25 days old. Gradually they become adept at catching moths and other insects. Two captive young ate spiders, moths, grasshoppers, flies, mosquitos, and even crickets.

SECOND NESTING ATTEMPTS

On no occasion have I found evidence of Traill's Flycatcher renesting after a brood has been reared. *E. virescens* renests regularly nearly every year in Michigan; *E. minimus* does so less often; *E. t. traillii*, like *E. flaviventris*, does not renest at all. If the eggs or young are destroyed, all four species will renest, *E. t. traillii* if the eggs or young have been taken prior to 20 July. If a female has lost several nests, usually up to three, and has laid as many as 8-11 eggs, she will not renest, even prior to 20 July.

NESTLING RETURNS

Two banded nestling Traill's Flycatchers, out of a possible 147, have returned in later years to nest near where they were born. Both were males. In Muskegon County one made his territory along the same ditch bank where he was born but about 1,600 feet (485 m) from his birthplace. Neither of his parents returned the 2 years he was there. The second male was found 5,230 feet (1,612 m) from his birthplace at the Big Marsh Lake, Baker Sanctuary. When he was one year old he took up a territory at Ackley Lake and raised a family there.

RETURNS OF BANDED ADULTS

Males.—Twenty-two adult male Traill's Flycatchers have been banded on their nesting territories. They were at least one year old when banded. Of these, nine (40.9 per cent) returned the year following; five (22.7 per cent) the third year; three (13.6 per cent) the fourth year; and one (4.5 per cent) the fifth year. All returned to their former territory or to a part of it. (See Table 4 and territory maps in Fig.1.)

Females.—Thirty-one females were banded on the three areas. Only seven (22.6 per cent) returned the first year. During the next 4 years only one (3.2 per cent) female returned.

TABLE 4
RETURNS OF BANDED TRAILL'S FLYCATCHERS BANDED WHEN ADULTS

	Year banded				
	First year	Second year	Third year	Fourth year	Fifth year
Males					
Muskegon County, Montague	3	3	2	0	0
Calhoun County, Convis Township, Ackley Lake	6	2	1	1	0
Calhoun County, Convis Township, Baker Sanctuary	13	4	2	2	1
Total	22	9	5	3	1
Per cent		40.9	22.7	13.6	4.5
Females					
Muskegon County, Montague	5	2	0	0	0
Calhoun County, Convis Township, Ackley Lake	8	2	0	0	0
Calhoun County, Convis Township, Baker Sanctuary	18	3	1	1	1
Total	31	7	1	1	1
Per cent		22.6	3.2	3.2	3.2
Total of both sexes	53	16	6	4	2
Per cent		30.1	11.3	7.5	3.7

Pairs.—A mated pair, designated 1M and 1F, were the first pair banded at Baker Sanctuary in 1960. They returned in 1961 and each had a different mate. 2M and 2F. In 1962 neither 2M nor 2F returned, but both 1M and 1F were back and mated again; they did so in both 1963 and in 1964. 1M used the same territory during 1960 and 1961. 2M had the territory immediately south of this in 1961. In 1962, 1M moved into 2M's 1961 territory and maintained this during that year, and during 1963 and 1964. In 1965 1M did not return but 1F was back on her 1964 territory with a new mate. All other males have returned to their past season's territory. Except for 1F in her second year, this was also the case with female returns. One female, 32-33140, returned her second year to Ackley Lake, but her first year's mate did not

return. She occupied the same territory with a new mate. In all other cases, when both male and female returned, they mated together again.

ADULT WEIGHTS AND MEASUREMENTS

The average weight of 16 breeding males was 12.9 (11.4–14.7) grams. The average wing length of 28 males was 70.9 (65–75) mm and the average length of tail was 58.4 (53–60.5) mm.

The average weight of 22 breeding females was 12.3 (10.2–14.2) grams. The average wing length of 33 females was 66.6 (65–72) mm and the average tail length, 55.2 (52–61) mm.

SUMMARY

Traill's Flycatchers of the *fitz-bew* song type arrived at Battle Creek in Southern Michigan on dates averaging 17 May (10–27) during a 35-year period and departed on 15 August (2 August–13 September). The average size of 27 territories was 2.06 (1.3–2.9) acres (83.8 ares).

Habitats in southern Michigan are chiefly in dry shrubby marshes or along lake borders. On the Baker Sanctuary, Convis Township, Calhoun County, 48.5 per cent of nests were found in *Cornus amomum* bushes, and 14.3 per cent in *Crataegus*. At Ackley Lake, in the same township, 35.7 per cent of the nests were in *Salix*, 21.4 per cent in *Cornus amomum*, and 14.2 per cent each in *Rosa carolina* and *Spiraea tomentosa*. The average height of 93 nests was 133.2 cm.

Eggs are laid during the early morning, as a rule; often the last egg is laid just prior to noon. The average egg set was 3.68 and the average measurements, 17.70 × 13.29 mm. The average egg weight was 1.67 grams. Incubation required between 13 and 15 days, averaging 14.

Of 92 nests observed, eggs hatched in 64 and young left 60 (65.2 per cent). In these 92 nests, 302 eggs were laid, of which 223 hatched; 198 young fledged (65.6 per cent).

Thirteen young left nests at 13.8 (12–16) days of age. They remained on their parent's territories until about a month old.

Cowbird parasitism was found in five of 94 nests. Two cowbird young were fledged, at the expense of seven Traill's Flycatcher eggs. The laying of a cowbird egg in a nest causes the nest to fail in over 80 per cent of cases.

Of 22 banded males, nine returned the next year, five the third, three the fourth, and one the fifth. Of 31 banded females, seven returned the next year and only one the next 4 years. Through 1964 two banded nestlings out of 147 returned to nest within 1,600 feet and 5,230 feet of where they were born.

Both male and female return to their past year's territory if possible. One pair was paired for 4 of 5 years.

From records of 23 banded females, the first egg was laid 17 (6–28) June, and nests were terminated 19 July (9 July–10 August). Only two of these females attempted second nests. The average number of eggs laid by the 23 females during the summer was four.

Adult weights and measurements are given.

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NEW LIFE MEMBER

Miss Marie E. Thompson of Ft. Lauderdale, Florida, has recently become a Life Member of the Wilson Ornithological Society. Having spent most of her life in Michigan, where she graduated from Western Michigan University, she has recently retired to Florida. A former officer of the Michigan Audubon Society and the Audubon Society of Kalamazoo, Miss Thompson is also a member of the AOU, and numerous state and local ornithological organizations. Her interests in birds are mostly observational, and she sandwiches these in with church activities, gardening, and photography.

